

A new species of *Calliostoma* from New Zealand (Mollusca: Gastropoda: Trochoidea)

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Calliostoma (Maurea) simulans n.sp. is described.

Key words: Trochoidea, *Calliostoma*, new species

Introduction

With the advent of commercial scampi trawling on the Chatham Rise, New Zealand, during recent years, a number of undescribed invertebrates have been obtained as bycatch, among them the large calliostomatinae described below. This species resembles some forms of *Calliostoma (Maurea) blacki* (Powell, 1950), which has overlapping geographic and bathymetric ranges, and with which it is locally sympatric. It was to have been named in a revision of the New Zealand Calliostomatinae, currently in progress, but recent requests for identification of scampi bycatch animals have increased the need for a specific name.

Abbreviations and text conventions

MNZ, Museum of New Zealand, Wellington; NZOI, National Institute of Water and Atmospheric Research, Wellington; P, primary spiral cord; S, secondary spiral cord.

Spire angle measurements of individual shells were averaged to reduce bias produced by cyrtocoenoid spire outline and increased or decreased expansion rate of the last adult whorl. Spiral sculptural elements on shells are numbered consecutively adapically to abapically as defined by Ikebe (1942) and Marshall (1988).

Systematics

Order Vetigastropoda Salvini-Plawen, 1980

Superfamily Trochoidea Rafinesque, 1815

Family Trochidae Rafinesque, 1815

Subfamily Calliostomatinae Thiele, 1924

Genus *Calliostoma* Swainson, 1840

Calliostoma Swainson, 1840. Type species (by subsequent designation of Herrmannsen, 1846): *Trochus conulus* Linnaeus, 1758; Recent, north-eastern Atlantic and Mediterranean.

Subgenus *Maurea* Oliver, 1926

Maurea Oliver, 1926. Type species (by original designation): *Trochus tigris* Gmelin, 1791; Recent, New Zealand.

Calliostoma (Maurea) simulans n.sp.

Plate 1, figures 1–3

Description: Shell up to 52.5 mm high, most specimens slightly broader than high, rather thin, anomphalous, glossy, spire 1.0–1.5 x higher than aperture, evenly conical, mean spire angle 66–81°. Protoconch and first teleoconch whorl white. Subsequent whorls either white with pale yellowish brown spots between nodules; or spiral interspaces pale pink through translucent pale buff or almost colourless outer shell layer, and spiral cords alternately spotted with white and yellowish or reddish brown. Protoconch 420–430 μm wide, sculptured with network of crisp threads that enclose hexagonal spaces, terminal varix strong. Teleoconch of up to 8.75 strongly and rather evenly convex whorls, suture well impressed, periphery rounded, base weakly convex. First 0.2 whorl delineated by a growth scar, with 2 axial costae and fine spiral threads. Subsequent spire whorls sculptured with spiral cords that multiply by intercalcation from 4 (P1–P4) to 6 (P1–P4, S1, S2) or, a few specimens 7 by addition of S3; summit

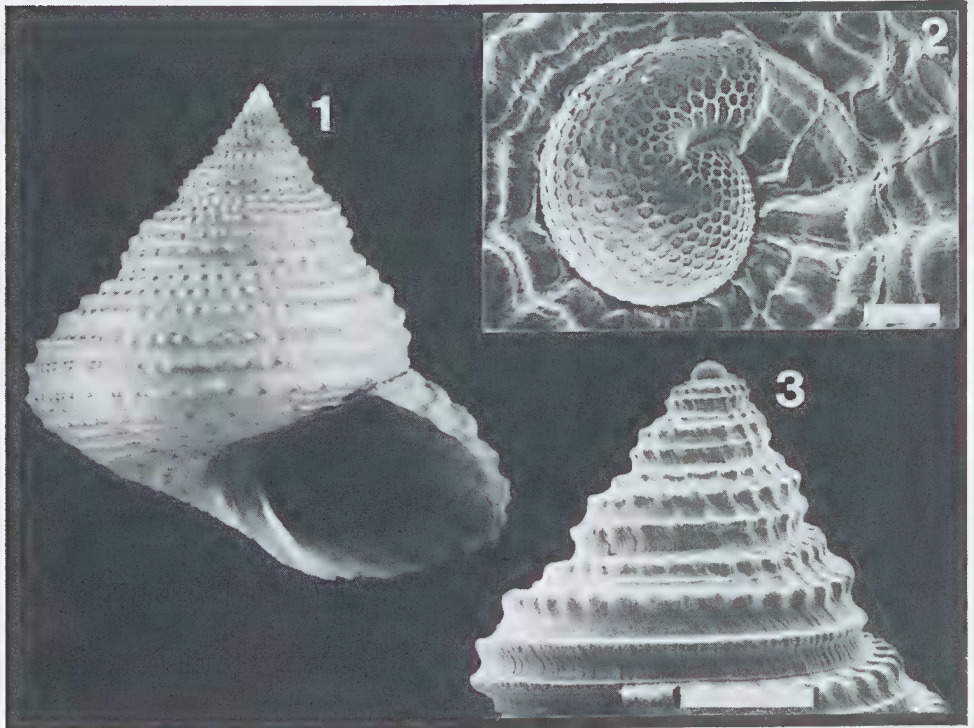


Plate 1. Figures 1–3. *Calliostoma (Maurea) simulans* n.sp. Figure 1. Holotype, shell height 30.5 mm. Figure 2. Protoconch of paratype, Pegasus Canyon, 329–183 m, MNZ M.64654. (scale 100 μm). Figure 3. Early spire whorls of paratype, Pegasus Canyon 329–183m, MNZ M.64654 (scale 1mm).

of P4 partly or in a few specimens entirely exposed on spire, nodules rounded; spiral interspaces considerably wider than each spiral cord, becoming finely spirally lirate. P1–P4 commencing immediately. P1 at first much weaker than P2 and P3, which are strong and similar throughout, gradually enlarging to resemble them or remaining slightly weaker throughout. S1 and S2 becoming as large as P1–P4, S1 commencing on late fourth or mid fifth whorl, S2 commencing on mid fourth or early fifth whorl. Where present, S3 seldom becoming as large as P4. On many specimens P1–P3 nodular at first; P3 becoming weakly nodular or smooth late on fourth whorl on many specimens, becoming strongly nodular again after a further 1–3 whorls. S1 and S2 rapidly becoming nodular, or S2 becoming nodular 1 or 2 whorls from its inception. Basal cords similar to those above, numbering 6–9, weaker and more weakly nodular than those on spire; inner 2 or 3 strongest, nodular; outer spirals more weakly nodular or smooth, weaker or more or less obsolete; interspaces considerably wider than each spiral cord, finely spirally lirate. Axial costae strong on first 2 or 3 whorls, obsolete thereafter. Aperture ovate, inner lip thickened, parietal glaze very thin, outer lip thin and simple.

Type data: Holotype MNZ M.87450 (height 30.5 mm, width 29.0 mm, 8.3 teleoconch whorls) and 33 paratypes MNZ: BS 558, 43°30'S, 173°31.3'E, head of Pegasus Canyon, NE of Banks Peninsula, alive, 27 September 1976, r.v. *Acheron*. Paratypes (158 MNZ): BS 786, 43°25'S, 173°26'E, wall of Pegasus Canyon, alive, 329–183 m, 21 February 1979, r.v. *Acheron* (35); BS 785, 43°25'S, 173°26'E, Pegasus Canyon, alive, 485–476m, 21 February 1979, r.v. *Acheron* (59); BS 784, 43°29.5'S, 173°30.5'E, Pegasus Canyon, alive, 402–338m, 21 February 1979, r.v. *Acheron* (12); BS 783, 43°31'S, 173°30.5'E, Pegasus Canyon, alive, 256–293m, 21 February 1979, r.v. *Acheron* (52).

Other material examined: 3 specimens in 3 lots MNZ, and 28 specimens in 13 lots NZOI.

Distribution: Challenger Plateau, off New Plymouth, off Cape Palliser south to Banks Peninsula, Chatham Rise, and off Bounty and Campbell Islands, New Zealand, 183–1006 m, taken alive at 256–410m.

Remarks: *Calliostoma (Maurea) simulans* most closely resembles *C. (M.) blacki* (Powell, 1950), from which it differs in having more strongly convex teleoconch whorls, and in that spiral cord S1 consistently becomes as large as P1 or larger. By contrast, in *C. (M.) blacki* S1 seldom becomes as large as P1, and the nodules on P1 are consistently larger than those on S1 before the last adult whorl. The two species have overlapping geographic and bathymetric ranges, *C. blacki* occurring on the Chatham Rise, off the east coast of the South Island from Pegasus Bay southwards, and off Stewart, Snares, Auckland, Campbell and Bounty Islands (material MNZ and NZOI). The two species have been obtained living together in dredgings from off Pegasus Bay, Campbell Island, and the Bounty Islands.

Literature cited

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